

REMARKS

In order to more particularly point out and distinctly claim the subject matter Applicants regard as the invention, Claim 17 has been amended to state that (B) is 90 to 10 mass % of at least one resin selected from the group consisting of a polypropylene resin, an olefin copolymer, a polyphenylene ether-based resin and a polyester-based resin. Support for this amendment can be found on pages 8 and 19 of the present specification. No new matter has been added.

Claims 17-21 have been rejected under 35 USC 103(a) as being unpatentable over Sano et al in view of Applicants' admissions. Applicants respectfully traverse this ground of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to a plated resin molded article that has a metal plating layer provided on the surface of a thermoplastic resin molded article formed from a composition comprising (A) 10 to 90 mass % of a matrix resin that has a water absorption after 24 hours in 23°C water, according to ISO62, of at least 0.6%, (B) 90 to 10 mass % of at least one resin selected from the group consisting of a polypropylene resin, an olefin copolymer, a polyphenylene ether-based resin and a polyester-based resin, and at least one of (C) a water-soluble substance having a solubility at 25°C of not more than 300g in 100g water, (D) at least one of a surfactant and a coagulant and (E) a phosphorus compound.

As explained previously, the present invention provides a plated resin molded article which exhibits a high adhesive strength between a thermoplastic resin molded article and a metal plating layer and provides a plated resin molded article having a beautiful asthetic appearance. The plated resin molded articles of the present invention are provided by a treatment that does not involve the use of a heavy metal-containing acid, such as chromic acid, or potassium permanganate. This allows the problems associated with conventional methods with respect to the environmental hazards

that occur through the use of a heavy metal etching treatment to be avoided yet still provides for a highly adherent metal plating layer. The five components of the present invention have a synergistic effect in providing a thermoplastic resin molded article having an improved adherence strength to a metal plating layer. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Sano et al reference discloses a plated polyamide resin article formed by plating a molded article of a polyamide resin composition comprising from 30-80% by weight of a polyamide resin, from 20-70% by weight of a polyphenylene ether resin, 1-50 parts by weight of an impact modifier and 0.01-30 parts by weight of a compatibilizer. The polyamide resin forms a continuous phase and the polyphenylene ether resin forms a dispersed stage with the polyamide resin having a crystallinity of from 20-55% with the crystalline region thereof being not less than 72% in the γ crystal form. The polyamide resin and the polyphenylene ether resin are provided in the form of a blend so that the polyphenylene ether phase forms islands in the polyamide continuous phase. There is no disclosure in this reference regarding the presence of at least one of a water-soluble substance having a solubility at 25°C of no more than 300g in 100g of water, at least one of a surfactant and a coagulant and a phosphorus compound.

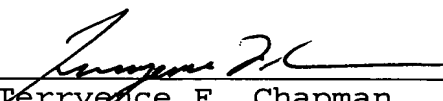
The Examiner has cited U.S. Patent No. 3 257 357 with respect to teaching that a surfactant may be added to the polyphenylene ether during polymerization. However, this reference shows a copolymer of polyphenylene ethers having different substituents, not a blend of two or more polymers. Since the Sano et al reference is concerned with a blend of a polyphenylene ether resin and a polyamide resin, the teaching that a surfactant can be added during the polymerization of polyphenylene ether resins cannot be properly extended to the Sano et al reference.

The Examiner has taken Applicants' statement in the specification that some phosphorus compounds are known in the art to be fire-retardants and come to the conclusion that it would have been obvious to add a phosphorus compound flame-retardant to the composition of Sano. However, there is no suggestion in Sano et al or in Applicants' so-called admissions that the five components required in the present invention would have the synergistic effects associated therewith.

As pointed out in the previous Response, objective test data is of record in the present application which more than establishes the patentability of the presently claimed invention. On pages 18-23, Examples of the present invention are presented. Examples 7-11 correspond to the present invention. As shown in Table 1 on page 23 of the present specification, the Examples of the present invention had a much higher adhesive strength than Examples 1-6 and Comparative Examples 1-7, which correspond to the prior art. This is clearly unexpected in light of the prior art cited by the Examiner and further establishes the patentability of the presently claimed invention. The components used in the presently claimed invention result in a synergistic increase in the adhering strength between the resin and the plating layer. There is simply no prior art disclosure which suggests that such an advantage in adhering strength would occur from the presently claimed composition. Therefore, it is respectfully submitted that the presently claimed invention clearly is patentably distinguishable over the prior art cited by the Examiner.

Reconsideration of the present application and the passing of it to issue is respectfully solicited.

Respectfully submitted,


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